



IN THE  
**SUPREME COURT OF THE UNITED STATES** Court, U. S.

OCTOBER TERM, 1938.

MAR 3 1939

CHARLES ELMORE CROPLEY  
CLERK

HONOLULU OIL CORPORATION, LTD. (a corporation), and M. O. JOHNSTON OIL FIELD SERVICE CORPORATION (a corporation),  
*Petitioners,*

VS.

No. 466

ERLE P. HALLIBURTON and HALLIBURTON OIL WELL CEMENTING COMPANY (a corporation),  
*Respondents.*

ERLE P. HALLIBURTON and HALLIBURTON OIL WELL CEMENTING COMPANY (a corporation),  
*Cross-Petitioners,*

VS.

No 479

HONOLULU OIL CORPORATION, LTD. (a corporation), and M. O. JOHNSTON OIL FIELD SERVICE CORPORATION (a corporation),  
*Cross-Respondents.*

**REPLY BRIEF OF HONOLULU OIL CORPORATION, LTD., AND  
M. O. JOHNSTON OIL FIELD SERVICE CORPORATION.**

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## Subject Index

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	Page
Preliminary Discussion of Plaintiffs' Brief.....	1
Simmons' So-Called Primary Features.....	10
Plaintiffs' Argument as to Franklin Patent.....	15
Cox and Edwards Patents Discussed.....	19
Other Well Testers of the Prior Art Discussed.....	22
Alleged Wide Industrial Use.....	22
Alleged Infringement.....	24
Our Assignments of Error.....	30
The Law Applicable to This Case.....	34
Conclusion.....	35

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## Table of Authorities Cited

---

	Pages
Alabama Power Co. v. Ickes, 302 U. S. 464, 58 S. Ct. 300.....	2
Edwards v. Johnston, 44 F. (2d) 607, 612, 613.....	3, 6, 9, 10, 24
Edwards v. Johnston, 56 F. (2d) 49.....	6, 7, 11
General Talking Pictures Corporation v. Western Electric Company, 304 U. S. 175, 58 S. Ct. 849.....	2
Holland Furniture Co. v. Perkins Glue Co., 277 U. S. 245, 257, 48 S. Ct. 474.....	31
Johnston v. Halliburton, 88 F. (2d) 270.....	24
Mackay Radio v. Radio Corp., 59 S. Ct. 427, 434.....	27
Naivette, Inc. v. Bishinger, 61 F. (2d) 433.....	32



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PRELIMINARY DISCUSSION OF PLAINTIFFS' BRIEF.

Plaintiffs'\* brief is devoted largely to a discussion of  
(1) concurrent findings of fact by the District Court

\*As in our opening brief, we will refer to the parties as plaintiffs and defendants.

and the Circuit Court of Appeals for the Ninth Circuit respecting the Franklin patent, and (2) references to the record in the Fifth Circuit case, including the findings of fact and conclusions of law made by District Judge Bryant, needlessly printed in full as an appendix to the brief.

1. We believe the settled rule of this Court is that (a) concurrent findings will not be disturbed unless plainly without support, and (b) ordinary questions relating to the validity and infringement of patents will not be reviewed where there is no conflict between decisions of the Circuit Courts of Appeals. *General Talking Pictures Corporation v. Western Electric Company*, 304 U.S. 175, 178, 58 S. Ct. 849, 851, and cases therein cited. Likewise, findings of the District Court on conflicting evidence, not questioned by the Circuit Court of Appeals, unless clearly erroneous, are accepted as unassailable. *Alabama Power Co. v. Ickes*, 302 U.S. 464, 477, 58 S. Ct. 300, 303, and cases therein cited.

2. While the opinion of the Circuit Court of Appeals for the Fifth Circuit is here for reference, the transcript of record in that case was filed here only as an exhibit. (Plffs. Ex. 5.) The findings of fact and conclusions of law, signed by Judge Bryant, were reversed by the Circuit Court of Appeals for the Fifth Circuit. Since the record in that case does not constitute testimony in this suit, and the lower Court's findings and conclusions were *reversed*\* on appeal, we believe that the frequent references by plaintiffs to what

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\*Italics are ours throughout brief.

Judge Bryant did or said, in support of their present arguments, have no probative value here. However, if this Court chooses to examine that record, conclusive evidence will appear therein fully supporting the Circuit Court of Appeals for the Fifth Circuit in holding that "the idea of using one string of pipe with a valve to be closed and opened by rotating the pipe to entrap a sample below the packer was the idea of Philp." For that reason alone, both the apparatus and method claims of the Simmons patent here in suit are invalid.

In the present case the two Courts below agree that Franklin Patent No. 263,330 contemplated the existence and use of a packer on the tube below the valve; that the patent discloses a valve, operated by movement of the pipe, which valve would not leak, but in any event it would not be invention to tighten what would otherwise be a leaky valve; that the device could be used in carrying out the patented process; that the Franklin tool built, tried and tested by plaintiffs recovered an entrapped sample;\* and that the Franklin patent anticipates the ten apparatus claims of the Simmons patent which are therefore invalid.

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\*In *Edwards v. Johnston*, 44 F. (2d) 607, 612, affirmed 56 F. (2d) 49, a suit for infringement of the Edwards Patent, referred to in plaintiffs' brief, p. 4, Judge Hutcheson, then of the Eastern District of Texas, reaching a similar conclusion respecting the Franklin Patent, said: "This device, though designed for and used, not for the purpose of testing strata, but to regulate and control the flow of oil wells, had in it practically every suggestion of plaintiff's [Edwards], and witnesses testified, and I think established, that it could have been taken as it was or with mere mechanical adaptation and actually used in a rotary well as a tester".



The District Court further found "that the patent in suit was in itself an impractical device. ~~No~~ actual commercial use has been shown." (R. Vol. 1, p. 23.) This finding was not disturbed by the Circuit Court of Appeals.

The foregoing factual determinations are fully supported by the evidence, and the decision of the Circuit Court of Appeals for the Ninth Circuit based thereon, is not in conflict with the decision of any other Circuit Court of Appeals. Under the authorities heretofore cited, those findings respecting the patent to Franklin, are now unassailable and must be regarded as established facts.

Plaintiffs refuse to face those facts, and instead re-argue the entire case, by attacking the Franklin patent with the same weapons they unsuccessfully used in the Courts below (Brief, pp. 21-42); moreover, they still persistently proclaim the wide industrial use of the Simmons invention. (Brief, pp. 53-56.)

In our opening brief we considered the Franklin patent, in the light of the prior art, as anticipating any invention in the two Simmons method claims. (Our brief, pp. 22-32; 42-47.) Plaintiffs attempt to answer that argument by a strict analysis of the precise structure described and shown in the patent itself, with their own unsupported conclusions.

Aside from that, plaintiffs continuously labor under the misapprehension that Simmons invented a new and patentable method of testing a rotary drilled well, which was a radical departure from the accepted practice of his day.

In short, plaintiffs' broad argument is that Simmons for the first time discarded the old method of oil well testing, which required the setting of casing and bailing out of fluid before a sample from the producing formation could be secured; and that he invented a new method by which such a sample could be obtained without the necessity of setting casing or removing the mud fluid. (Brief, p. 10.)

That seems to be the major premise of the argument and it is entirely fallacious. Furthermore, it ignores casing tests, for water shut-off, which the Circuit Court of Appeals for the Ninth Circuit apparently held infringed the method claims.

Doubtless having the prior patents to Cox and Edwards in mind, plaintiffs say that the Simmons sample is "uncontaminated" (Brief, pp. 13, 15, 43, 46, 74) and obtained "within a very few minutes". (Brief, pp. 13, 15, 16, 24, 25, 32, 66, 72.)

Finally the alleged Simmons method drifts off into a discussion of mechanism employed, with emphasis on the fact that the apparatus should include "a single string of pipe", rather than the particular tools shown in the Cox and Edwards patents for making the same kind of a test in drilling fluid. (Brief, p. 16.)

Plaintiffs' brief takes up each prior art patent by its four corners without any allowance for the oil drilling and testing art as it had been developed at the time these patents issued.

It is obvious that with the advent of rotary drilled oil wells, descending into the earth to the depth of a

mile or more, testing operations, of necessity, had undergone a change, for which Simmons was in no way responsible. In the case of *Edwards v. Johnston*, 44 F. (2d) 607, 612, to which plaintiffs call attention (Brief, p. 4), Judge Hutcheson of the Eastern District of Texas says of well testing that, "It is more likely that here was an evolution and not a revolution."\*

In that new environment, the only practical way of testing the productivity of an oil well was to obtain a formation sample, without setting a special string of casing for that purpose and without removing the deep column of mud fluid which was then part of the new rotary drilling system.

Cox and Edwards recognized that changed condition *over five years* before Simmons filed his patent application, and their patents disclose testing tools for obtaining formation samples without the necessity of either setting casing or removing drilling fluid. Both these inventors substituted a testing tool for a rotary bit, at the end of the regular drill pipe, and lowered such testing tool into the muddy fluid of an uncased well hole, for entrapping a sample. Packers, well known in the art, were used for the purpose of sealing

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\*On appeal, in *Edwards v. Johnston* (C.C.A. 5th), 56 F. (2d) 49, it was found that "In recent years, in the southwest part of the United States, the wells run to five or six thousand feet deep. In boring these with rotary bits fastened to a drill stem composed of pipes lengthened by adding joints at the top as the well goes down, it is necessary at all times until the well casing has been finally set to keep the well full of a thin mud, the hydrostatic pressure of which keeps the well from caving and prevents the entrance of water or other things from the strata pierced. To the testing of such a well without removing this mud the Edwards patent is addressed."

off\* a restricted testing zone from the heavy fluid above. The claims of their patents are for the devices shown and it apparently did not occur to either of them that any new testing method was invented.

The Simmons tool, likewise attached to the regular drilling pipe, was intended for lowering into the muddy well fluid, under precisely the same conditions as previously contemplated by Cox and Edwards. It was provided with a packer and entrapped a sample. While his method was the same, the tool itself differed from that of the Cox and Edwards patents. Simmons used the simple Franklin rotary valve instead of a more complicated structure for accomplishing the same result as Cox and Edwards. He merely adapted the Franklin tool to the new and analogous use of well testing; or to express it in a different way, he improved the manner in which Cox and Edwards entrapped samples, by suggesting the double use of the Franklin device for testing purposes. In neither view of the matter was the exercise of the inventive faculties required for the change.

In seeking to distinguish the Simmons invention from the early prior art, plaintiffs would have it appear that a vast distinction exists between making a test in a well filled with rotary mud-laden drilling fluid rather than some other fluid encountered in drill-

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\*In *Edwards v. Johnston* (C.C.A. 5th), 56 F. (2d) 49, Judge Sibley, after saying that bailing was too expensive for testing, continues: "A more simple method is to separate the fluids above from the fluids beneath by a 'packer'; that is, some mass which will fit the well water and gas tight, and to extend a tube from the mouth of the well through the packer to the well bore beneath it. This packer early assumed two forms. \* \* \*

ing operations. (Brief, pp. 7-9.) But this apparent difference immediately disappears when the prior art fluids are considered, for after all it was not Simmons' conception that testing, or other tools, could be operated under drilling fluid. That was done by persons preceding him and was well known in the art. Fluids have always been present in well drilling, and although perhaps not of the same consistency as present day drilling fluid, still the problem of sealing off the producing area to be tested from the remaining fluid was the same before as after modern rotary drilling took hold. Similar types of packers and valves were used in wells filled with rotary fluid as in those in which native liquids were found.

Eliminating then this misleading distinction between drilling and other fluid, we find substantially the alleged Simmons invention in the Burr & Wakelee patent\* (R. Vol. 2, p. 328) of 1867, which discloses an apparatus for testing deep uncased oil wells, consisting of a pipe, carrying a packer for sealing off a formation to be tested from the well fluid above, and means for securing a sample from such formation, at the top of the well, for the purpose of testing. (R. Vol. 1, pp. 233-236.)

It is particularly noteworthy, in view of plaintiffs' present argument, that the Burr & Wakelee patent shows an oil well testing tool embodying "a single string of pipe"; that it is for use in an uncased well

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\*Discussed in plaintiffs' brief, p. 52. This patent was not cited by the Patent Office during the prosecution of the Simmons application.

hole in which fluid is present; that the testing is accomplished "without maintaining circulation"; and that "an uncontaminated sample" must necessarily be recovered.

Whatever inventive genius there may be in the now asserted Simmons testing method is the necessary and intentional function of the apparatus disclosed as early as 1867 in the Burr & Wakelee patent. Wells, at that time, ran to a depth of from 1500 to 2000 feet (R. Vol. 1, p. 236) and did not contain specially prepared drilling fluid, because the rotary system had not come into vogue. But if there was any patentable novelty in adapting an oil well testing tool which secured a sample from a restricted formation area, to the changed condition under which artificially prepared fluid was present, then the invention was that of Cox and not of Simmons. The Cox patent discloses a tool which will entrap a sample beneath the rotary drilling fluid within an uncased well hole.\*

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\*In *Edwards v. Johnston*, 44 F. (2d) 607, 613, affirmed 56 F. (2d) 49, Judge Hutcheson said of the Cox Patent:

"So complete is the disclosure of this patent that whatever may be said about its inoperability or the inoperability of the particular form described in the specifications and shown in the drawings because of something over or under in its description, not only any ordinary mechanic, but the proverbial wayfaring man, with that patent in hand, and with the earlier patents to aid him, would not err in the way, for he could easily devise some method of doing the very thing which plaintiff claims his device does, and, while it may be that in view of his patent plaintiff should have protection limited to the very device he describes and shows, it is perfectly plain to me that no broad protection may be accorded him."



### SIMMONS' SO-CALLED PRIMARY FEATURES.

It is hornbook patent law that the claims of a patent must define the measure of the invention. But plaintiffs in their brief prefer to summarize what they term the "primary features" of the Simmons invention, in two synthetic claims of their own wording:

"(1) The test is made with a single string of pipe without removing the drilling fluid and without maintaining circulation of drilling fluid". (Brief, p. 16.)

We have already shown that by using the Burr & Wakelee patented apparatus a test could be made in precisely the same way in natural drilling fluid as when a special mixture of mud and water was employed. We selected the Burr & Wakelee patent only as one example of the prior art, but substantially the same method results by using the apparatus disclosed in Lyons Patent No. 46,124 of 1865 and Cooper Patent No. 1,000,583 of 1911.\* So likewise with the Franklin device used as a tester. (Our Opening Brief, pp. 22-32.) Plaintiff Halliburton had to admit that Franklin discloses a tool which would entrap a sample in the rotary drilling fluid of a well. (R. Vol. 1, pp. 478-479.)

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\*These two patents are analyzed in plaintiffs' brief, pp. 52 and 53. In *Edwards v. Johnston*, 44 F. (2d) 607, 613, Judge Hutcheson, in considering the Cooper patent, said:

"I think it wholly immaterial to determine whether the Cooper patent as described would operate below a thousand feet or not, for it gave the plaintiff and any others such information, in the light of the state of the art, as to the theory of the process as that to make it operative at 3,000 feet or any other depth required the exercise of no inventive genius, but merely the application of mechanical trial and error to adapt the device for use at any required depth."

If making a test with "a single string of pipe" is one of the primary features of the Simmons invention, one would expect to find some mention of it in the patent description. Many other objects of the invention are stated. (Patent, p. 1, lines 75-100.) The importance of the "single" string of pipe, according to the brief, was to make a test "without maintaining circulation of drilling fluid".

But the Simmons patent makes no reference whatever to a test "without maintaining circulation of drilling fluid". The patent does not even mention circulation, in that it either occurs or does not occur, during the testing operation. Only by reading plaintiffs' brief would the public become aware of this primary feature of the alleged invention. There is no teaching in the patent that circulation of drilling fluid bears any relation whatever to well testing.

Indeed, our own view of the matter is that they are separate and independent and should not be confused.\* If the circulation of drilling fluid, either through the standard drill pipe or in any other way, prevents well tools from "freezing" in an uncased hole, that has nothing to do with a testing method.

It appears to us that plaintiffs, in their eagerness to distinguish the Simmons method from the prior art, go entirely outside the patent. If elimination of circulation during testing was a primary part of the Simmons invention, as now contended, some mention of

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\*In *Edwards v. Johnston* (C.C.A. 5th), 56 F. (2d) 49, 50, the Court treated the Edwards patent as disclosing a single string device.



that fact must appear in the patent itself, otherwise the disclosure is insufficient.

“(2) An entrapped and substantially uncontaminated sample is recovered, thereby giving a measure of the productivity of the formation tested.” (Brief, p. 16.)

Plaintiffs in this second feature seek to avoid the Cox patent, which entraps a testing sample in rotary drilling fluid, by saying that the Simmons sample is “uncontaminated”. Of course, the character of sample, whether contaminated or not, is really the result of and not a step in the method itself. In the Franklin device the sample would have the same purity as with Simmons.

The Simmons patent speaks of the sampling of “cognate” or related fluids encountered in drilling, whether oil, water or gas. (Patent, p. 1, lines 20-23.) Sometimes there is an emulsification (R. Vol. 1, p. 43); then again the test may be negative; at other times a column of water will ascend the drill pipe with oil underneath. (R. Vol. 1, pp. 42-43.) The muddy “rat-hole” fluid usually goes up the drill pipe in advance of the sample. (R. Vol. 1, pp. 384-385.)

The record is clear that the drilling and formation fluids are easily identified. (R. Vol. 1, pp. 385-386; 501.) They remain substantially in their same relative positions. If that is so, what difference does it make if in using the Cox device some drilling fluid may pass through the check valve, and follow the entrapped formation sample up into the drill pipe?

In the use of the accused Johnston device, mud is occasionally put into the drill pipe purposely, for a thousand feet or more, to prevent it from collapsing. When formation fluid enters, the narrow column of mud is merely shoved upward in the pipe and after it is removed a substantially "uncontaminated" sample results. (R. Vol. 1, pp. 384-385.)

As for measuring the productivity of the formation, that forms no part of the testing method, and is not mentioned in the patent either. The sample may be insignificant or it may consist of a fluid column several thousand feet in height (R. Vol. 1, p. 43), the amount depending upon the formation pressure and the length of time the valve is open. But if accurate measuring is a feature, the patent does not say how it is accomplished. The Cox sample is substantially uncontaminated and it will therefore give some measure of the productivity of the tested formation in the same manner as contended for Simmons; so will a test made with the Franklin device.

The primary features of the Simmons invention, assuming them to be patented, really possess no novelty over the prior art. It is only by arguing Cox without the teachings of the Burr & Wakelee, Lyons or Cooper patents; or the latter three patents without Cox; or by limiting the Franklin device to the precise structure and use described, without considering the general state of the art, that any novelty whatever can be imparted to the Simmons method, even under plaintiffs' own theory of what that patent discloses.

For the convenience of the Court we have prepared an analysis of Simmons claim 8 (method) and claim 15 (apparatus), noting where the various steps or elements are found in the prior art. These are the two claims selected by plaintiffs, (Brief, pp. 13, 14) and are as follows:

#### CLAIM 8.

"A method of testing the productivity of a formation encountered in a well containing drilling fluid, which includes

1. lowering an empty string of pipe into the well (early publications, Franklin, Cooper, Cox, Halliday, Edwards)
  - (a) through the drilling fluid (same)
  - (b) to adjacent the formation, (same)
2. the pipe carrying
  - (a) a packer (early publications, Lyon, Burr & Wakelse, Franklin, Cooper, Cox, Edwards, Halliday)
  - (b) and having a valved inlet at its lower end (Franklin, Cooper, Cox, Edwards, Halliday)
  - (c) which is closed while the pipe is being lowered, (Franklin, Cooper, Cox, Edwards)
3. setting the packer above the formation to seal off the drilling fluid from the formation, (early publications, Lyons, Burr & Wakelee, Cooper, Cox, Franklin, Edwards)
4. opening the valved inlet after the packer is set (Franklin, Cooper, Cox, Edwards, Halliday)
  - (a) to permit cognate fluid from the formation to enter the pipe, (same)
5. closing the valved inlet against the entrance of fluid from the well (same)
  - (a) by movement of the pipe, (same, except Cooper)
6. raising the pipe so closed (same)
  - (a) to remove an entrapped sample and (same)
  - (b) the packer from the well." (same)

**CLAIM 15.**

"Apparatus for testing the productivity of a formation encountered in a well containing drilling fluid, comprising

1. a single empty string of pipe to be lowered into the well (early publications, Lyons, Burr & Wakelee, Franklin, Cooper, Cox, Edwards, Halliday)
  - (a) through the drilling fluid (same)
  - (b) to adjacent the formation to be tested, (same)
2. a packer (same)
  - (a) lowered into the well by said string of pipe (same)
  - (b) for sealing off the drilling fluid from the formation to be tested, (same)
  - (c) said packer adapted to be positively pressed against the walls of the formation to seal off the same, (same, except Halliday)
3. means at the lower end of said string of pipe (same)
  - (a) to receive fluid from said formation (same)
  - (b) including an inlet opening into said pipe below said packer, and (same)
4. a valved structure for controlling the inlet (Franklin, Cooper, Cox, Edwards, Halliday), said valve structure having
  - (a) a relatively stationary part connected to the packer and (Franklin, Halliday)
  - (b) a relatively movable part connected to the pipe." (Franklin, Halliday)

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**PLAINTIFFS' ARGUMENT AS TO FRANKLIN PATENT.**

It is assumed, contrary to the patent, that Franklin discloses a permanent installation of a rotary valve at a point in the flow pipe high in the well hole; and that the device is not capable of establishing an empty sample chamber within the well bore "for only a few minutes". (Brief. p. 25.) On that basis plaintiffs

paint an imaginary picture of "cave-ins" and "freezing" which would cause the Franklin tool to stick in the uncased well on removal, after entrapping a sample.

But plaintiffs purposely overlook the fact that structurally, in all material respects, the Franklin and Simmons tools are identical and that the precise tool disclosed by the long expired Franklin patent has been successfully used as a tester without modification or change to entrap a sample, under rotary drilling conditions as they exist today. The two Courts below agree on that fact, established in this case, and clearly supported by the evidence. An empty sampling chamber could be established in the Franklin tool for any desired length of time.

The Latham patent is cited (Brief, p. 31) as showing that the Franklin tool could be rotated without the lower end held against rotation by the packer. On turning to that patent, however, we find that Latham uses a flatsided chisel member which is driven into the formation below, in order to prevent rotation, a device not referred to by Franklin.

It is said that our assembly of the Franklin valve with the well of 1880 falls short of the Simmons tool in the four following respects (Brief, p. 32):

1. In the drawing opposite page 25 of our opening brief, say plaintiffs, the pipe is broken away between the packer and inlet at the bottom of the pipe, indicating that the packer is a "substantial distance" up the well. But our drawing of the 1880 well was taken from the Carll Report, and can be seen better by turn-

ing to the Transcript of Record, Vol. 2, p. 440, where the exhibit is reproduced in enlarged form. An examination of Fig. 4 shows that the flow pipe and not the strata, is broken away, between the packer and bottom inlet, in a portion plainly marked "bottom section", whereas *both the strata and pipe* are broken away in three places between the packer and derrick floor. It leaves no doubt that the packer is deep in the well hole in the "bottom section". In fact, a close observation of this drawing shows what is there called a "perforated pipe", the words appearing on the drawing approximately half the distance between the pipe bottom and the packer, in the section termed "oil sand". Plaintiffs have therefore made an obvious error in reading the 1880 drawing, which shows the packer in substantially the same position on the pipe as that disclosed in the Simmons patent. It is really absurd to think that Franklin would put his packer any great distance above the producing formation and so disregard the knowledge of his time that the packer was to exclude fluids entering the well above the producing zone, defeating the very purpose he had in mind of securing the operation of a flowing well. If any doubt existed as to the proper location of a packer when testing, then the problem had already been solved by Lyons, Burr & Wakelee, Cooper, Cox, Edwards and Halliday, some of them preceding Franklin, but all earlier than Simmons.

2. The argument is that if the valve is positioned any substantial distance above the inlet adjacent the formation (which it is not), no accurate test can be made. Franklin, of course, says that his device may be



placed "deep in the well" and "at a point above the packer". That is exactly where we placed it in our drawing. So placed, it completely refutes plaintiffs' argument respecting a "brief test period" and "accuracy" of Simmons, over the Franklin valve used in the flow device of 1880. The length of time in testing depends entirely upon conditions found in the well. (R. Vol. 1, p. 41.) The "spaced relationship" of the major elements of the Simmons tool (Brief, p. 34) are substantially the same as in our drawing.

3. The third deficiency found by plaintiffs in the Franklin patent is that the valve is incapable of retaining and carrying to the surface an entrapped sample and that it was intentionally designed to permit the escape of fluid above the valve. (Brief, p. 35.) This fallacious contention is directly contrary to the plain statements in the patent, as pointed out in our opening brief. There could be no more leakage around the valve parts than between the valve faces of Simmons.

4. Finally, it is asserted that the drilling fluid from above would leak through the open valve structure, if used for testing, and impose itself on the formation below the packer, and the test be destroyed. Leakage in that manner would defeat Franklin's purpose. In the alternate solid disk type of valve, described in the patent, and appearing opposite page 28 of our opening brief, no leakage is possible. Both lower Courts here hold that the device will entrap a sample and the Appellate Courts agree that it would not involve invention to tighten a leaky valve.

**COX AND EDWARDS PATENTS DISCUSSED.**

The Cox and Edwards patents are then taken up and plaintiffs, making the best of the situation, assert that they, themselves, rely on these patents as "evidence that what Simmons did was invention". (Brief, p. 42.) The argument is that men of inventive ingenuity believed "circulation was an indispensable step in the testing procedure" which constrained them to provide two strings of pipe, "an outer string to maintain the circulation of the drilling fluid" and "an inner string to make the test". (Brief, p. 42.) Cox and Edwards use only one string of regular drill pipe, as does Simmons, but inside that drill pipe, Cox shows a flexible hose, which plaintiffs term "an inner string", while Edwards shows a small pipe substituted for the flexible hose.

The expression "without maintaining circulation" is shrouded in mystery throughout plaintiffs' brief. The reason for circulating muddy fluid down through the drill pipe and up through the uncased hole is to prevent cave-ins, plaster the well hole, keep fluids from entering the hole, stop tools from "freezing", and remove cuttings from the bit. (Brief, p. 8.) No circulation is necessary in a cased hole. But quiescent muddy fluid will do the same thing, when drilling ceases, as when the fluid is in circulation, according to Halliburton's own testimony. (R. Vol. 1, p. 39.) On his own accord he had found that a test could be made without the hazard of the pipe sticking when the mud in the hole was quiescent. (R. Vol. 1, p. 46.)

What difference is there, then, in making a test through quiescent mud, as Simmons did, or circulating



mud as Edwards preferred? The Cox tester can be used in either way. Defendants' expert Abbett said that "circulation in Cox is entirely independent of any testing operation \* \* \* both can go on at the same time or either could go on without the other." (R. Vol. 1, pp. 318-319.) The apparatus of Cox and Edwards is so constructed that circulation may be maintained while the testing operation was going on. Even in plaintiffs' new J-Slot tester, circulation can be re-established after the test is made, which is also true of defendants' accused tester. Plaintiffs say that when circulation is re-established in present day tools the sample is lost. (Brief, p. 65.) But that is of little moment if the "freezing" of the tester is prevented by the circulation.

In any event, the drilling fluid referred to, whether quiescent or in motion, is above the packer sealing the restricted formation area tested, from such fluid. It is therefore immaterial to any *testing method* whether the fluid above the packer is in circulation or not, while making the test, because the heavy fluid itself and not its circulation maintains the well hole; and if "freezing" occurs after the test is made and while the entrapped sample in the tool is removed, both plaintiffs' (R. Vol. 1, pp. 120-121) and defendants' (R. Vol. 1, pp. 166-167) testers can re-establish circulation. The flexible hose of Cox and the extra pipe of Edwards accomplish the same result as the auxiliary circulating valves of the modern testers, but with the added advantage that if circulation is re-established, or is "maintained" during testing operations, the Cox and

Edwards samples, because of a second conduit, would not be lost.

The only benefit we can see in eliminating the second string of Cox and Edwards and reverting to the single tube of Franklin, is to make the tool simpler of operation, and cheaper in construction, both mechanical advantages immaterial to any method. If it is important in present practice to re-establish circulation, when necessary, after the test is completed, even by losing the entrapped sample, why must plaintiffs resort to the hairsplitting argument that Simmons found "maintaining" circulation was not necessary, but "re-establishing" circulation still desirable? In any event, "circulation" itself is an important attribute of any testing tool, not as a part of a testing method, but to facilitate the removal of the tool itself after the sample is entrapped.

The Simmons patent dispenses with all circulation, going back to the Franklin, Lyons, Burr & Wakelee, and Cooper disclosures and, as stated in our opening brief, is really a step backward rather than forward.

Plaintiffs say that the time required to run a two string tester is prohibitive. (Brief, p. 51.) On the whole, it appears more economical to provide an extra circulating valve rather than a complete string of pipe; but on the other hand, if the tester should "freeze" on withdrawal, as plaintiffs so constantly remind us, the use of a circulating valve would destroy the sample and the well would have to be retested, whereas the extra circulating string would preserve such sample because in the double string device the testing operation is independent of circulation.

### **OTHER WELL TESTERS OF THE PRIOR ART DISCUSSED.**

Plaintiffs next criticize the remaining prior patents separately, carefully avoiding the combined state of the entire art at the time of Simmons, and, of course, omitting any similarities to the patent in suit. (Brief, p. 52.)

We have already referred to the Lyons, Burr & Wakelee and Cooper patents in this brief. The publications were fully considered in our opening brief.

Macready Patent No. 1,522,197 of 1925 (Brief, p. 53), included by plaintiffs, discloses a method of making production tests in the lower portions of deep rotary drilled wells, showing a "rat-hole" and "rat-hole packer" similar to that of the Simmons patent.

Plaintiffs are unwarranted in minimizing the prior art patents yet at the same time grossly exaggerating the alleged invention in issue. In all fairness, the same yardstick should be applied to the prior art patents as is used in measuring the patent in suit.

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### **ALLEGED WIDE INDUSTRIAL USE.**

The fallacious argument respecting the commercial use of the Simmons tester is again repeated (Brief, pp. 53-56), in spite of Judge Cosgrave's finding of fact, not disturbed on appeal, that "no actual commercial use has been shown".

The device of the Simmons patent has never been used except in three experiments, with one such tester. Plaintiffs' commercial structures do not re-

spond to the disclosure of the patent. (R. Vol. 1, pp. 422-427; 23.)

Some of the language used by plaintiffs' present counsel in the prosecution of the abandoned Halliburton patent application (R. Vol. 2, pp. 236-314), against the Simmons tool, is as harsh as anything we have ever said against it; "It provides a device which has the disadvantage that it will stick in operation," (R. Vol. 2, p. 303) and other similar statements. All the exaggerated claims now made for Simmons were there made for the Halliburton Stop Cock and Gear tester, and then transferred back to the Simmons device, when the Halliburton patent application was rejected by the Patent Office and abandoned.

In view of plaintiffs' present animosity toward two-string testers, it is difficult to believe that the Halliburton tool shown in his application as filed, really was for a two-string device. Yet that was actually so. Turning to the drawing, it will be seen that the usual pipe or conduit is numbered 2, and within it the tubing 41, of considerably less diameter, somewhat like the flexible hose of Cox, extending "upwardly for a considerable distance" (R. Vol. 2, pp. 247; 312) for testing "an extremely deep well". (R. Vol. 2, p. 248.) A strainer and rat-hole packer are also utilized, similar to those shown in the Simmons patent. (R. Vol. 2, p. 312.)

The same Halliburton who intended to use a two-string tester in a deep well hole is now given by plaintiffs as authority for the statement in the brief that

"two-string testers have never succeeded and are nowhere in use today". (Brief, p. 51.) Even though he had purchased the Simmons application, he was not aware of one of the "primary features" of that invention said to reside in only "a single string of pipe".

But whatever inconsistencies there may be, the established fact is that the only successful testers employed by plaintiffs were the Stop Cock and Gear device and the recently developed J-Slot tool, and not the Simmons form, which was only used experimentally to the extent of three tests in all.

Plaintiffs go entirely outside the present record when they say that the parties to the earlier suit of *Edwards v. Johnston*, 44 F. (2d) 607, affirmed 56 F. (2d) 49, threw a "false light" (Brief, p. 58) on the testing art because they knew of the then pending Simmons patent application, yet did not reveal it to Judge Hutcheson during the trial. Even if that was so, the defendants here were not parties to the suit. If Judge Hutcheson had no knowledge of Simmons in the earlier case, manifestly he had full knowledge of his alleged invention and patent in the later case of *Johnston v. Halliburton*, 88 F. (2d) 270, for he was one of the appellate judges who concurred in the decision, invalidating the two Simmons method claims.

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#### ALLEGED INFRINGEMENT.

Plaintiffs would prevent us from arguing non-infringement, if we assume valid claims, because they

say that particular question was not raised by our petition for certiorari. (Brief, pp. 2, 61.)

We are at a loss to understand such an inaccurate and unfair statement.

In our petition, under the heading of "Reasons Relied on for Allowance of Writ" we concluded as follows:

"The Circuit Court of Appeals for the Ninth Circuit therefore erred in holding the two method claims valid and *infringed*." (Petition, p. 6.)

Our supporting brief says that if the two method claims are valid "then the further question might arise as to whether the petitioners have infringed those claims". (Supporting Brief, p. 9.)

It is quite apparent why an attempt is made, on technical grounds, to confine the issue to validity only. Plaintiffs realize that the arguments which they have tried to develop with respect to the omission of "circulation", by reason of a "single string of pipe", and securing an "uncontaminated sample", etc., have no application whatever to the *casing* tests, made by defendants. These, comprising approximately one-third of all tests made, are fully discussed in our opening brief (Our Brief, pp. 32-35), where we showed that the use of defendants' tool in water shut-off tests was "obviously not an infringement under any theory of this case". (Our Brief, p. 56.)

Plaintiffs have not answered that argument. Indeed, throughout their brief, scarcely any reference is made



to water shut-off tests, in which the tool is lowered through a cased well and the packer set against the metal casing and not in the open well hole.

If a casing test does not come within the scope of the patent, it is difficult to recognize invention when the same apparatus is used in the open formation.

All the claims in suit are limited to formation tests, because the Patent Office required that restriction to be expressly inserted, for which reason casing tests are plainly outside the scope of the Simmons patent.

Plaintiffs select apparatus claim 15 for reading on defendants' device (Brief, pp. 63, 64), but omit to quote the following introductory phrase:

“Apparatus for testing the *productivity of a formation* encountered in a well containing drilling fluid.”

Nor do they set out, as with other elements, the important limitation in the body of the claim:

“said packer adapted to be positively pressed against the walls of the *formation* to seal off the same”.

Tracing the history of claim 15, we find that it was first submitted to the Patent Office, without the last above quotation, in an amendment dated June 17, 1927. At that time the claim was numbered 32 and, as such, appears in the Simmons file wrapper. (R. Vol. 2, p. 72.) On December 4, 1929, the Patent Office rejected that claim in the following language:

"Additional references of record:

Halliday 1,474,630 Nov. 20, 1923

" 1,510,669 Oct. 7, 1924

Claims 26-36 and 37 are rejected as being completely met by Halliday. Attention of the applicant may be called to the fact that Halliday's device can be manipulated to close all the ports and further manipulated to open only the ports below the packers whereby the device can be used as a well tester." (R. Vol. 2, p. 104.)

Thereupon applicant's attorney, after a personal interview with the Examiner (R. Vol. 2, p. 108), amended claim 32 by inserting after the word "tested":

"said packer adapted to be positively pressed against the walls of the formation to seal off the same". (R. Vol. 2, p. 107.)

The inserted limitation distinguished that claim from the Halliday patents which showed the packer pressed against the interior of an oil well casing. So amended, the claim was allowed, the number being later changed from 32 to 15. (R. Vol. 2, p. 72.)

The selection now of claim 15, to urge infringement is particularly unfortunate for plaintiffs, because it fits our argument exactly. No appeal was taken from the Patent Office ruling and plaintiffs are bound by that limitation. (Our Brief, pp. 35-37.)

In the very recent case of *Mackay Radio v. Radio Corporation*, ..... U.S. ...., 59 S. Ct. 427, 434, opinion by Justice Stone, it was said:



"Carter, avoiding prior art by defining his angle for antennae with wires of particular wave lengths with mathematical precision, cannot discard that precision to establish infringement." (Citing cases.)

A casing test is made when the conditions referred to in the Simmons patent as a part of the prior art, are encountered:

"If a water sand has been encountered above the formation to be tested, it is necessary to run in a string of casing and cement or otherwise seal its bottom to the sides of the well bore at a point below the known water level, in order to protect the formation being tested from this upper water strata." (Patent, p. 1, lines 49-55.)

In the first portion of plaintiffs' brief they set forth, "The issue to be reviewed, as to the method claims", and then quote at length from the opinion of Judge Wilbur, as follows (Brief, p. 5):

"Simmons faced the problem of providing a method of testing an oil well without removing the hydrostatic pressure necessary for *supporting the formation in place.*"

No such problem is presented in a cased well. Another part of the same opinion, quoted in plaintiffs' brief (p. 6), is:

"The patentee discovered that a well could be safely tested by the lowering of a single string of pipe equipped with a valve packer and strainer and that it was *not necessary to set the casing permanently* \* \* \*"

Water shut-off casing tests contemplate the permanent setting of casing. Simmons says so himself, "The cemented water string, however, must be left in the hole". (Patent, p. 1, lines 66-67.)

Judge Wilbur, in referring to the invention, is further quoted in plaintiffs' brief (Brief, pp. 5-6):

"This discovery constituted invention for it disclosed what had not been thought possible in the art, that is, that such a device could be set in a well containing drilling fluid while there was no circulation thereof long enough to make a test."

It is evident that the learned jurist failed to take into account that no such problem could possibly arise with a well that had a string of casing for keeping out water. No one had thought it impossible to insert a tester or in fact any well tool down through the casing of the well, even though it contained drilling fluid not in circulation, because no crumbling of the walls or freezing could then occur. In such a test the packer must seat against the casing and does not go beyond its end, as that would defeat the very purpose of the test. (Our Opening Brief, drawing opposite p. 32.)

Plaintiff Halliburton admitted that water shut-off tests would not infringe the apparatus claims of his patent, saying:

"All those claims that are limited to pressing the packer against the formation wouldn't come within the use of setting a packer within a string of casing. I don't think." (R. Vol. 1, p. 130.)

This is not the unwitting admission of an ordinary plaintiff, for Judge Wilbur calls him "an expert patent lawyer and a mechanical engineer familiar with the oil industry". (R. Vol. 1, p. 529.)

The distinction between formation and casing tests is important for two reasons: (1) If casing tests are entirely outside the scope of the Simmons invention, then defendants infringe neither the method nor apparatus claims, in at least one-third of the accused tests; and (2) If the claims are necessarily so restricted, viz., that the only novelty was to use the Halliday apparatus and method, for testing uncased rather than cased well holes, then such novelty obviously did not amount to patentable invention.

In either view of the matter, the Circuit Court of Appeals for the Ninth Circuit reached an erroneous conclusion on the infringement and validity of the method claims.

For the reasons given in our opening brief (pp. 54-62), which apply to all tests made by defendants, and because casing tests particularly are entirely outside of the invention now attributed to Simmons, there is no infringement, even if the claims are assumed to be valid.

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#### OUR ASSIGNMENTS OF ERROR.

In answer to our assignment 1, that the method claims merely describe the function of an apparatus intended for a particular use, plaintiffs reply that manual operation is necessary, since their "apparatus

may be lowered into the well and yet nothing will happen until the apparatus is manipulated". (Brief, p. 68.)

Every apparatus requires some manual operation in order to accomplish its intended purpose. In *Risdon Iron & Locomotive Works v. Medart*, 158 U.S. 68; referred to in our opening brief, manual operation was necessary to operate the machines required to practice the alleged process, yet this Court held the process to be but the function of the machine. In *Westinghouse v. Boyden Power Brake Co.*, 170 U.S. 537, 18 S. Ct. 707, also in our brief, manual operation was required to operate the air brake, but the Court nevertheless held that a functional claim was not allowable.

We see in the terms of the method claims only a statement of the action or function of the apparatus, so closely related thereto as not to be separably patentable as a distinct method. Such a method is incomplete without apparatus, and since the apparatus would not support valid claims, we do not see how the process claims can be valid.

In *Holland Furniture Co. v. Perkins Glue Co.*, 277 U.S. 245, 257; 48 S. Ct. 474, cited in our opening brief, Justice Stone, writing the opinion of this Court, said: "That the patentee may not by claiming a patent on the result or function of a machine extend his patent to devices or mechanisms not described in the patent is well understood." (Citing cases.)

It seems to us that Simmons comes within the prohibition mentioned. The mere fact that manipulation is

necessary to position the tool where it will accomplish its desired result, after which the valve is opened and closed, does not detract from our argument. Here the alleged method is absolutely dependent on the function of the apparatus and manual action is only indirectly required for operating the tool, not for performing a step in the process. The method itself cannot be performed by hand, without the aid of mechanism. (Brief, p. 87.)

With knowledge of the Franklin and other prior patents relating to testing, one skilled in the art would understand by mere inspection, how to operate the Simmons device for making a test.

The two cases to which plaintiffs call attention (Brief, p. 69) hold that a process may be novel, although a device which is used in only one step of such process, may itself be old. In neither case did the process claims, as here, describe "the manner in which the apparatus was designed and intended to be used". We repeat, with our own emphasis, plaintiffs' quotation from *Naivette, Inc. v. Bishinger*, 61 F. (2d) 433, where the Court stated:

"There is no contradiction in sustaining validity of a process, which includes clamping as a *step* in a new *combination*, and yet to deny validity to the patent for a clamp as a unitary device."

The patentability of the Simmons method over his apparatus must be decided by the same rules which would be applied to test their anticipation by a patent to another. They are not separate and distinct inventions.

Our assignment 2, relating to lack of invention in the two method claims over Franklin, has already been considered.

Our assignment 3 was that the new use of an old apparatus did not involve invention. Plaintiffs reply (Brief, p. 70) that the correct rule is stated in *Pennsylvania R.R. v. Locomotive Truck Co.*, 110 U.S. 490, 494, to which we agree. Simmons applied the old Franklin tool to a new use without any modification in the device itself: There was "no change in the manner of application" and no distinct or unexpected result derived. If the new use, viz., securing a sample, constituted the alleged novelty, then such samples, for testing, had been secured in oil wells long before the time of Simmons. A mere result is, of course, not patentable, notwithstanding plaintiffs' suggestion that Simmons secured "a new result substantially distinct in its nature, and never contemplated by Franklin". (Brief, p. 71.)

In assignment 4 we contended that the method claims depend for their novelty upon mechanical limitations, expressly placed there to avoid the prior art, to which plaintiffs feebly reply, that these limitations constituted only "an appropriate expression" (Brief, p. 72) agreed on by the Examiner and applicant. Whether in appropriate language, or otherwise, mechanical restrictions inserted in the process claims secured their allowance. The novelty, therefore, resides in mechanical means and not the steps of any true process. Under the views recently expressed by this Court in *Smith v. Hall*, 301 U.S. 216, 57 S. Ct. 711, the method claims are invalid for that reason alone.

Plaintiffs take exception to our definition of a patentable process in assignment 5, citing several opinions of this Court. In *Corning v. Burden*, 15 How. 252, relied on by plaintiffs and cited in our opening brief, this Court defined a "new and useful art", citing as examples, "tanning, dyeing, making water-proof cloth, vulcanizing India-rubber, smelting ores and numerous others". All of these methods contemplate a tangible thing which is changed in some new and useful manner. While an apparatus or machine, if new, may be patentable as such, we do not believe this Court ever intended to extend the statutory word "art" to include the intangible "testing" method contemplated by the Simmons patent. It was only the device itself, which, if new, was patentable.

Plaintiffs stress *Eames v. Andrews*, 122 U.S. 40 (Brief, p. 75), in which the validity of the reissued "driven well" patent was sustained, but six months later, the same patent was declared invalid in *Andrews v. Hovey*, 123 U.S. 267.

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#### THE LAW APPLICABLE TO THIS CASE.

Plaintiffs have attempted to state the law applicable to this case under fifteen separate items at the conclusion of their brief. (Brief, pp. 76-87.) It is impossible within the limits of this reply to take up each of these separate items. We will therefore rely on our own citation of authorities in both this and our opening brief as controverting any disputed points.



**CONCLUSION.**

In conclusion, we summarize our defense as follows:

1. The Simmons apparatus claims are invalid for want of invention over the disclosure of the Franklin patent in view of the state of the art then existing.

2. The invalidity of the apparatus claims, concurred in by the trial and appellate courts in this suit, fully supported by the evidence, is not in conflict with any decision of another Circuit Court of Appeals; and under the established rule of this Court, will not be reviewed.

3. The apparatus is a part of the public domain, and the patent laws, under the guise of so-called method claims, will not grant a monopoly on the special use to which an old device may be put.

4. The method claims are invalid for want of invention over (a) the Franklin patent in view of the remaining prior art as particularly represented by the Lyons, Burr & Wakelee, Cooper, Cox, Edwards and Halliday patents, each of which discloses a well testing device, and the publications of Carll, Packham and Chamberlin, or (b) the testing methods necessarily disclosed in those prior patents, in view of the Franklin apparatus.

5. The circulation of drilling fluid to sustain the walls of an uncased hole forms no part of a testing method and is not even mentioned in the patent.

6. Simmons did not invent a patentable testing method, by disclosing a device which utilized only "a single string of pipe" and "without maintaining circulation".



7. Entrapping a "substantially uncontaminated sample" and "giving a measure of the productivity", is not included in any claims and moreover is not invention over the prior art.

8. The Simmons method and apparatus for making formation tests are not patentably different over the former Halliday method and apparatus which could be used for making casing tests in oil wells.

9. The method claims are invalid for the other reasons set forth in our assignments of error.

10. The idea of using one string of pipe with a rotating valve to entrap a sample below the packer was the idea of Philp and not of Simmons, and while the testimony itself is not in the present case, strictly speaking, the opinion of the Circuit Court of Appeals for the Fifth Circuit at least shows the small part that Simmons actually played in the development of the oil well testing industry.

11. Plaintiffs have apparently abandoned "water shut-off" casing tests in their charge of infringement, thereby in effect admitting that those tests do not come within the scope of the alleged Simmons invention.

12. All the claims in issue were expressly limited to formation tests by a Patent Office requirement and they cannot now be construed to include casing tests.

13. The patent claims must be narrowly construed, if valid at all, because the Simmons device is impractical and has never been commercially used.

14. The use of defendants' patented device, differently constructed and operated from that of Simmons, is not an infringement of any valid patent claims.

15. In no view of the matter are defendants' water shut-off casing tests infringements of any of the patent claims.

It is submitted that the Circuit Court of Appeals for the Ninth Circuit should be affirmed in respect to the apparatus claims, and reversed, because of errors in law and fact, on method claims 8 and 18, as those claims are invalid.

Dated, San Francisco, California,

February 27, 1939.

Respectfully submitted,

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